

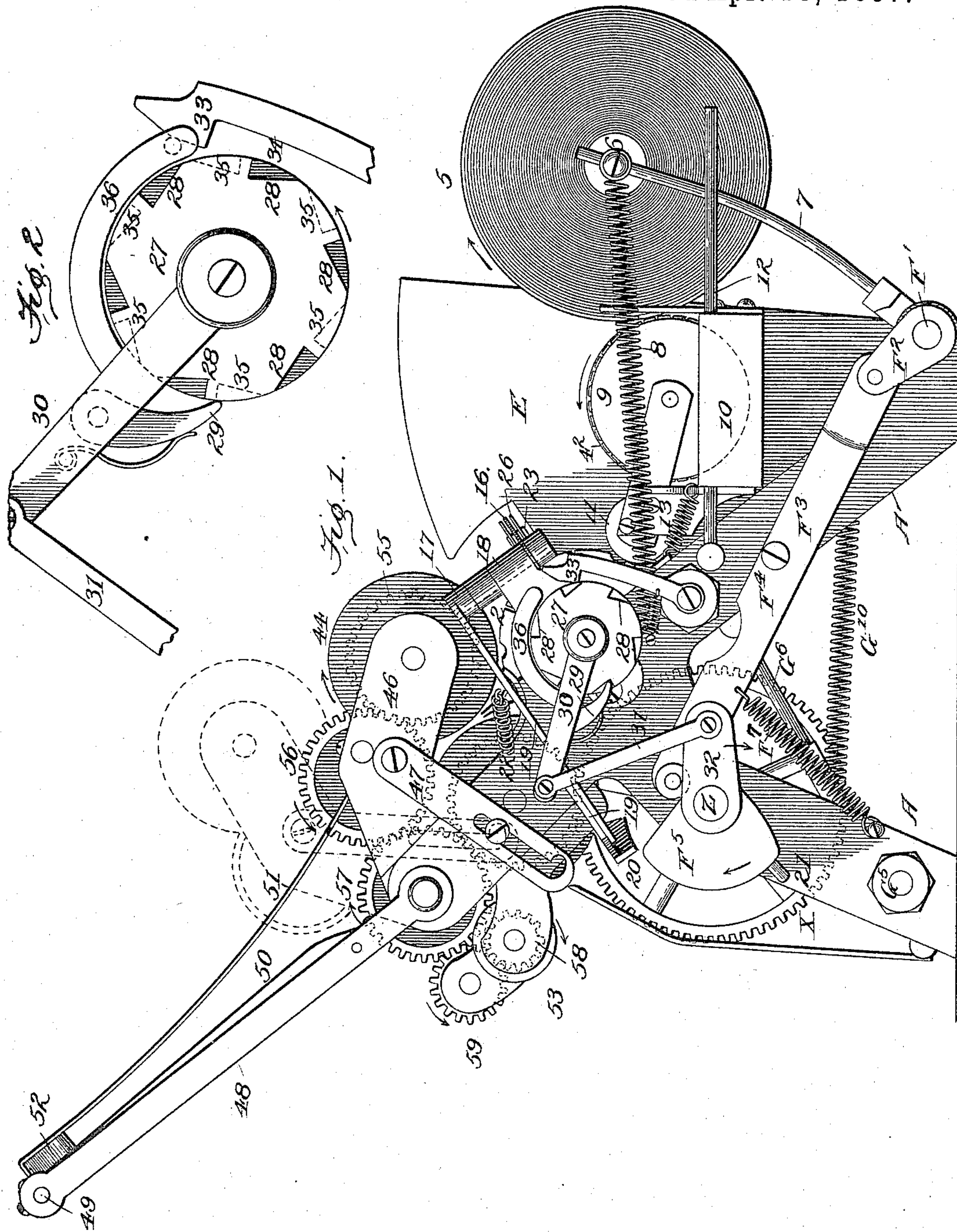
(No Model.)

5 Sheets—Sheet 1.

H. T. SUNDSTROM.
MACHINE FOR SEALING NEWSPAPERS, &c.

No. 580,473.

Patented Apr. 13, 1897.



WITNESSES:

Edwin L. Bradford
A. Roland Johnson.

INVENTOR

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BY
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(No Model.)

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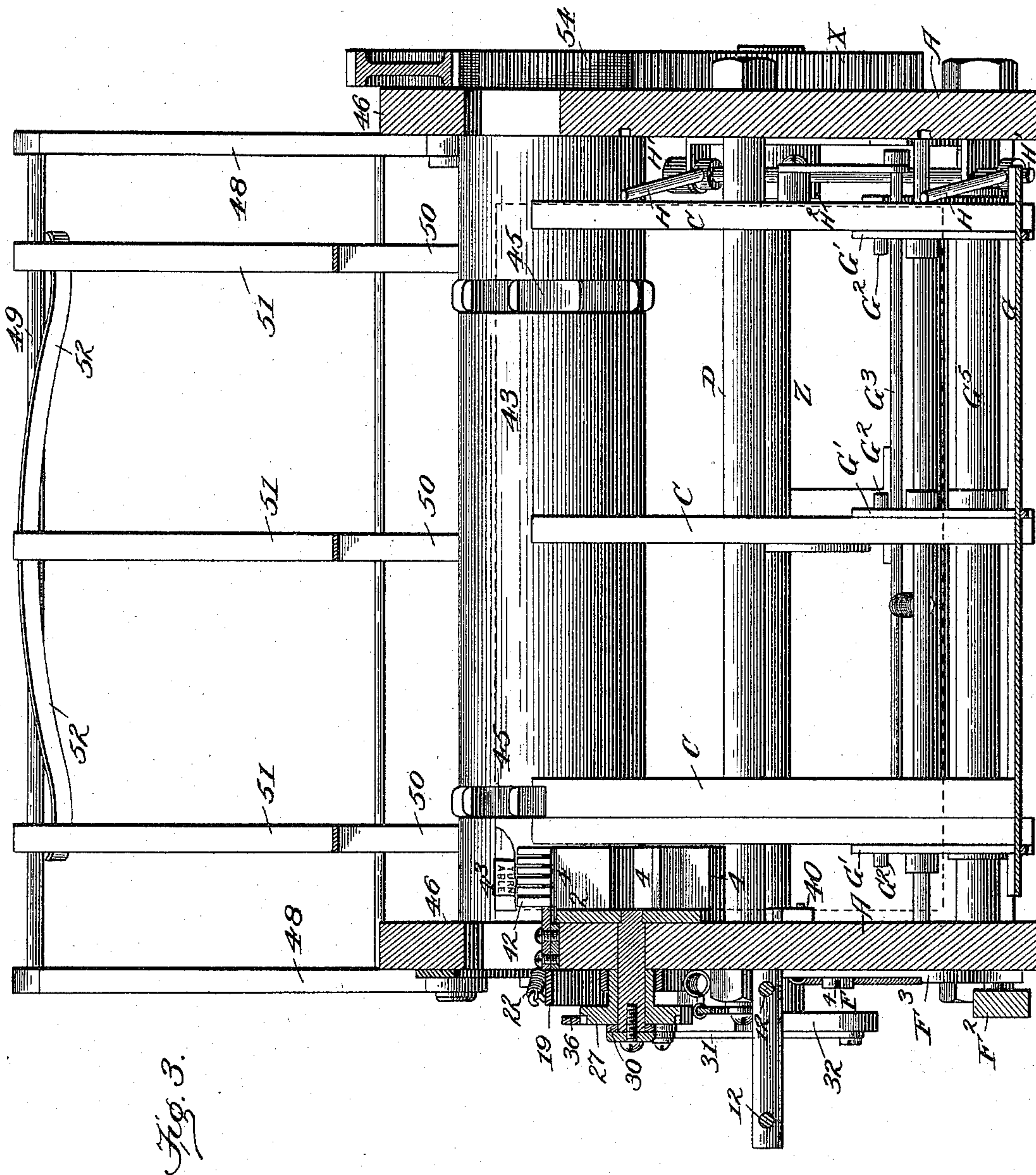


Fig. 3.

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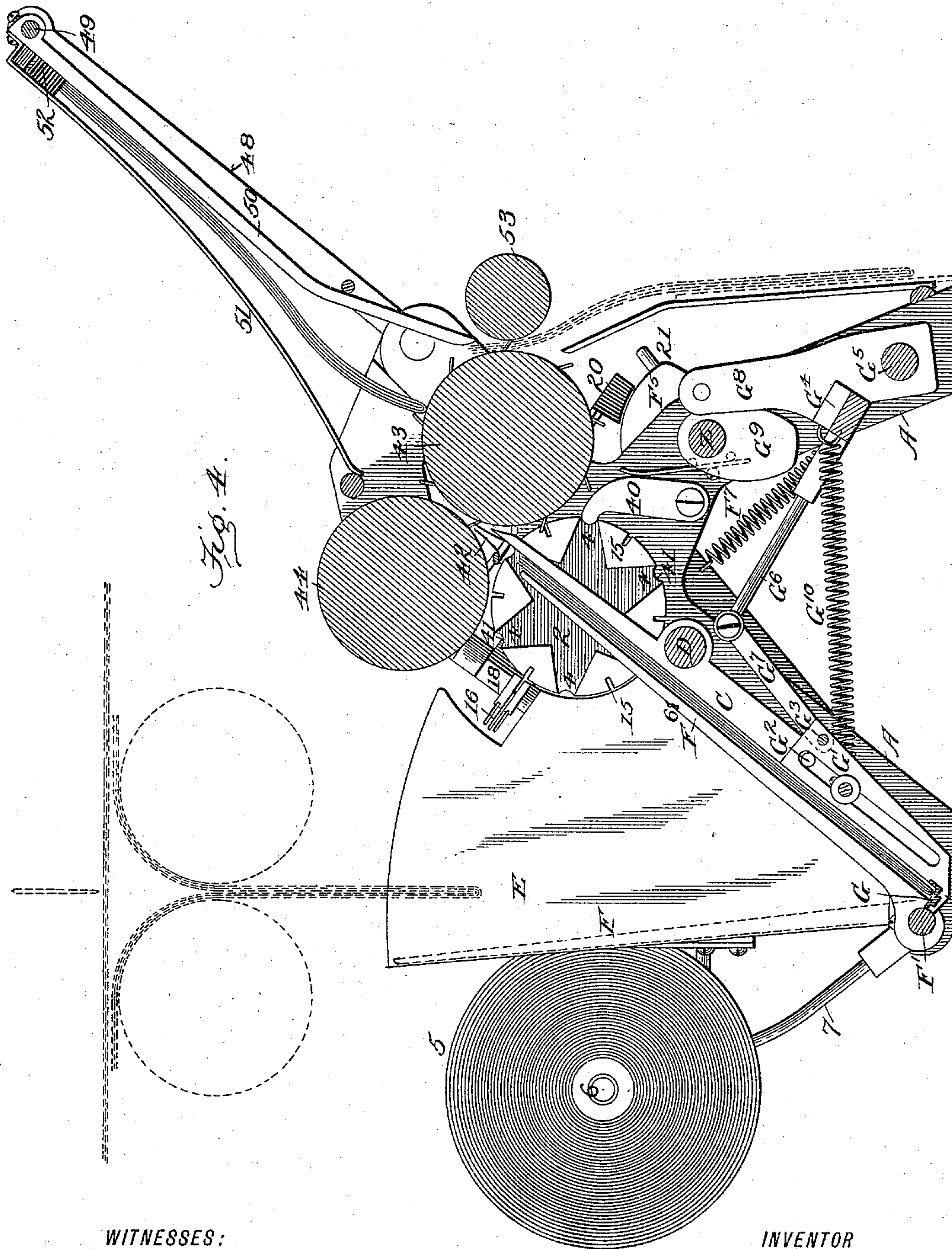
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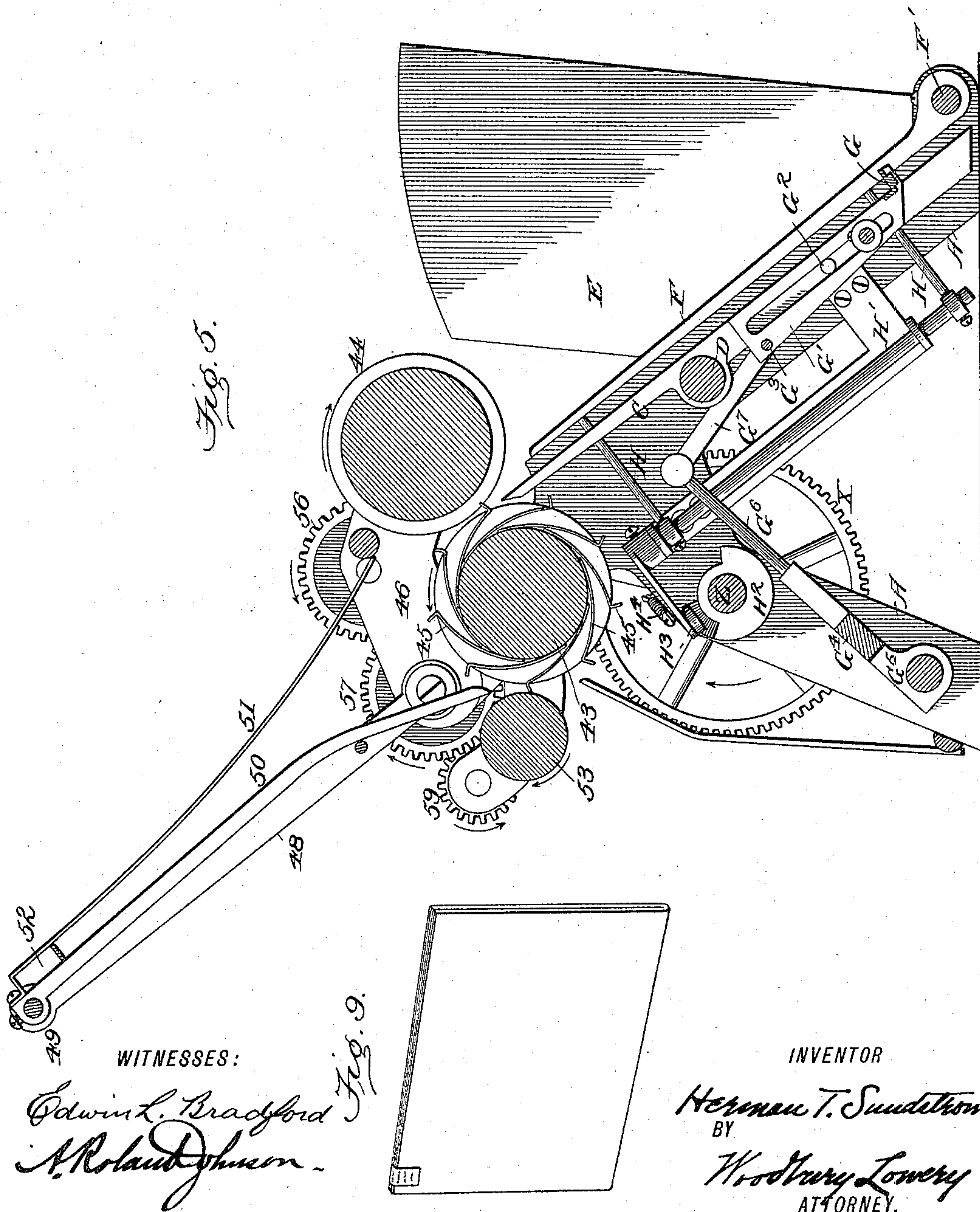
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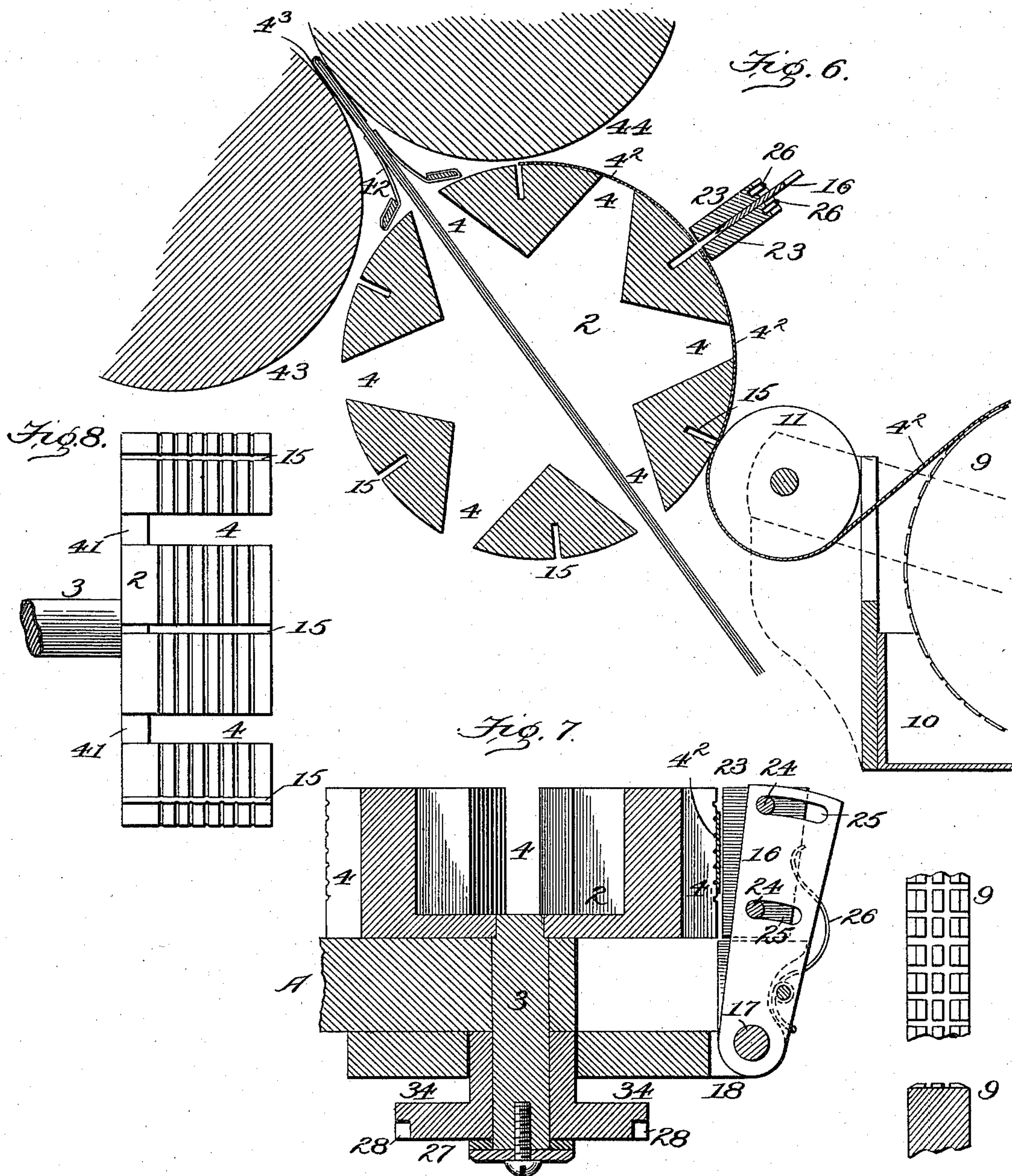
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UNITED STATES PATENT OFFICE.

HERMAN T. SUNDSTROM, OF GALVESTON, TEXAS.

MACHINE FOR SEALING NEWSPAPERS, &c.

SPECIFICATION forming part of Letters Patent No. 580,473, dated April 13, 1897.

Application filed April 11, 1896. Serial No. 587,119. (No model.)

To all whom it may concern:

Be it known that I, HERMAN T. SUNDSTROM, a citizen of the United States, residing at Galveston, in the county of Galveston and State of Texas, have invented new and useful Improvements in Machines for Sealing Newspapers, &c., of which the following is a specification.

The working intended by my newly-invented machine is the sealing of the open edges of folded newspapers or other periodicals at the place of publication to prevent their return for redemption by the publishers when the seal is broken.

It is the practice of newspaper publishers to supply news dealers and agents with the understanding that all papers unsold by them if returned to the publishers within a certain time will be redeemed, and the purpose of sealing the paper is to show that it has neither been sold nor read and is therefore redeemable. For this purpose my machine in its organization embodies certain novel parts and combinations of parts which are pointed out and designated in the claims concluding this specification.

My machine is adapted to receive the folded paper as it drops from the printing-press, seal its open edges at one corner, and deliver it into the packing-box, which is now used in modern printing-presses, so that to open the paper for access to the reading-matter it is necessary to break the seal and thereby, under the terms with which the dealer was supplied, render the paper non-redeemable.

My machine is complete and independent of the printing-press or of any particular means for delivering the paper from the press, and the article to be sealed may, if desired, be fed to the machine by hand or by any suitable means that will supply the papers or other periodicals, one at a time, in proper position in the machine, or from the last folding-rolls of the printing-press, to be operated upon in the way which I will now describe.

The following description, read in connection with the accompanying drawings, will enable any person skilled in the art to which my invention relates to understand and to practice it; but it will be understood that my invention is not limited to the precise form illustrated and described, as various modifi-

cations may be made without departing from its essential novelty or sacrificing any of the advantages of my invention.

Referring to said drawings, Figure 1 represents in side elevation my newspaper-sealing machine, showing the way in which a pasted sealing-web is supplied to the circumference of a wheel, to which it adheres by its pasted side, upon which the web is severed into sealing-strips and presented in position to be applied to the folded paper. Fig. 2 shows a detail of the ratchet device for operating the carrying-wheel for the sealing-web. Fig. 3 is a front view showing that part of the machine on which the paper to be sealed is received and the carrying-wheel for the sealing-web in section, taken in the line of its axis, and in which the dotted lines show the relation to this wheel of the folded paper having the seal applied thereto. Fig. 4 shows a vertical cross-section of the machine, looking toward the carrying-wheel for the sealing-web and showing a newspaper laid in the machine in proper relation to said wheel. Fig. 5 is a like view looking toward the opposite side of the machine. Fig. 6 is a vertical transverse section (full size) of the carrying-wheel for the sealing-web, showing the way in which the web is pasted upon the circumference of said wheel and severed thereon into strips, which are presented by it in position to be taken off by the folded paper. Fig. 7 is a section taken through the axis of said wheel, showing the relation of the severing-knife to the wheel and provision on said knife for clamping the sealing-web to said wheel as the means of holding the web smoothly upon the wheel while being severed. Fig. 8 is a side view of the web-carrying wheel, showing its radial openings intersecting its circumference; and Fig. 9 shows a sealed newspaper.

The organization of my machine is such that the article to be sealed is dropped upon a shelf, upon which it is moved sidewise and by which the paper has an upward movement. An intermittently-rotated wheel is adapted by radial openings to receive the paper as it is moved sidewise diametrically across said wheel, and it is through these openings that the paper is moved upward to receive the sealing-strip. Upon the circumference of this wheel the sealing-web is intermittently drawn

by and as the wheel is rotated and is by such rotation pasted to the circumference across its intersecting openings, and in this condition presented in severed strips in position
 5 to be taken therefrom by the paper as it is moved upward through the wheel-openings. In this operation the folded paper is moved in a line radial to the seal-carrying wheel when the latter is at rest, while the sealing-strip is
 10 moved as a fixed part of the wheel in a circular path to bring the folded paper and the sealing-strip in juxtaposition to apply the seal, which is pushed by the paper from the wheel-surface into a grasp which presses the
 15 folded ends of the strip upon the opposite sides of the open edges of the paper. Emerging from this grasp the paper is delivered to the bite of a pair of rolls which draw the paper from the openings in the said wheel and de-
 20 liver it into a cage or pocket, wherein the direction of its movement is reversed to deliver it with its folded edge down into the packing-box.

In the organization of my machine embodying these primary features I provide a frame
 25 A, preferably of a sort of truss, with a bed formed of upwardly and rearwardly inclined front bars C C C, of a length about equal to the folded paper. These bars are secured to
 30 a strong shaft D, which binds the frame ends and forms the bed for the receptacle for the paper. Guards E E rise at each side of the bed, and at its front are fingers F, whose normal position is vertical and which, with the
 35 guards, form a sort of closure for the bed to retain the paper in proper position when dropped into said receptacle. As the paper is dropped with its folded edges down it is received upon a shelf G, which crosses said
 40 bars horizontally, so that the paper falls forward upon the bed. To lay the paper smooth on the bed and under a slight pressure, the fingers F are arranged to vibrate between the
 45 guards and to press upon and hold the paper smooth and with its open edges closed together. These laying-fingers are fixed upon a horizontal rock-shaft F', mounted at the foot of the frame, and they correspond, preferably, with the bed-bars. The provision
 50 for operating these paper-laying fingers consists of a crank F² on the rock-shaft, which crank connects, by a lever F³, pivoted to the outer side of the frame at F⁴, with a cam F⁵
 55 on the main driving-shaft, whereby each revolution of said cam, which approaches the form of a triangle, causes the fingers to be turned up in position to receive the paper and to be turned down to lay the paper upon the bed-bars. A spring F⁷ maintains the cam
 60 and lever in contact. Upon this bed the paper has a movement sidewise and upward. The upward movement of the paper is effected by the shelf G, which is fitted across the upper side of the bed-bars and is held in position by guides G', slotted to move over guide-
 65 pins G² in said bars. A horizontal rod G³ connects these guides at their upper ends,

and also makes a connection with a sort of treadle-frame on the main shaft for actuating said shelf, and which I will more particularly describe presently. 70

The provision for sliding the folded paper sidewise upon the bed-bars consists of fingers H H, standing upward from a rock-rod H', mounted on the inner side of the frame, so
 75 that said fingers will engage the folded edge of the paper and throw it toward the opposite side of the machine. In their normal position these fingers are held against the frame by the action of a cam H² on the main driving-
 80 shaft arranged to act upon a crank-arm H³ on the rock-rod, which carries the fingers. A spring H⁴ connects the crank-arm and acts to rock the rod to give a quick throw of the fingers against the paper, so that the outward
 85 movement of said fingers is against the resistance of said spring.

It is immediately after the folded paper is placed upon the bed-bars that the fingers are caused to strike and slide the paper, as stated,
 90 and they are caused to remain in engagement with the edge of the paper to hold it in proper position as it is moved upward. This sidewise movement of the paper is to place its open edge within the radial openings of the
 95 carrying-wheel for the sealing-web, and the head of said wheel serves to limit the throw of the paper, while the upward movement of the shelf is sufficient in extent to dislodge by a pushing action the pasted sealing-strip from
 100 the surface of its carrying-wheel and force the strip up with a fold medietely of its length and out between a grasp formed of spring-fingers and into the bite of a pair of rolls, as seen in Fig. 6. 105

The connections for actuating the shelf consist of a sort of treadle-frame G⁴, loosely mounted upon a fixed cross-shaft G⁵ at the foot of the frame at the rear thereof and connected by frontward-extending arms G⁶ and
 110 links G⁷ to the cross-rod G³, which connects the upper ends of the slotted guides G' of said shelf. Medietely of the treadle-frame rises an arm G⁸ in position to receive the action of a cam G⁹ on the main driving-shaft, and it is
 115 the action of this cam which elevates the treadle-arms G⁶ and pulls up the shelf, while a spring G¹⁰ acts to pull the treadle-arms and shelf down.

In the construction shown the mechanism
 120 for applying the sealing-strip is arranged at one side of the frame and the operating mechanism therefor and for the paper-actuating parts arranged on the other side of the machine and are connected to and are driven by
 125 any suitable connection from the press to the gear X, upon the main shaft Z, mounted in the rear of the frame, and which shaft by the crank-arm 32 on its other end connects and operates the seal-carrying wheel. When con-
 130 nected to receive the folded papers from the printing-press, as stated, the gear X is caused to make one revolution to each stroke of the last folding-knife of the press.

The carrier for the sealing-web consists of a wheel 2, mounted in the frame upon a short horizontal shaft 3 and having its circumference intersected by radial openings 4, extending from the wheel-head 2 and open at the inner side of the wheel. These radial openings are preferably of even number and are a little wider than the width of the folded paper. The inner open side of this wheel is contiguous to the bed-bars, and the intermittent rotation of the wheel is such as to bring two of the radial openings in the plane of the inclined bed-bars, so that the paper is slid therefrom freely into said wheel-openings across the axis of the wheel and against the inner wall of the wheel-head. At or near the lower side of the circumference of this wheel the sealing-web 4² is supplied, and at the opposite upper side of said circumference the sealing-strip 4³ is separated from the web and applied to the open edges of the paper. In this operation the sealing-web by its pasted side is caused to adhere to the circumference of the wheel and is carried by it to the point of applying the seal to the paper. In sliding the paper into the openings of the wheel the laying-fingers hold the edges of the paper smooth upon the bed-bars, and the openings being wider than the thickness of the paper there is no impediment to the free and certain entrance of the paper into said wheel-openings. The inner wall of the wheel-head forms a limit to such entrance of the paper, and the fingers having thrown the paper into said wheel-openings serve to hold it against the wheel-head as it is moved upward by the shelf. The guard at the wheel side leaves an opening at its inner edge corresponding with the wheel-openings and through which the paper is slid, and the paper-laying finger F⁶¹, Fig. 4, acts adjacent to this guard and to the inner side of the wheel.

A roll 5, of paper, is mounted to turn freely upon a center bearing 6, which is adjustably supported upon a rod 7, which is loosely mounted upon the frame. A spring 8 connects this rod so as to constantly pull and maintain the web-roll in contact with a paste-supplying roll 9, mounted upon and turning within a paste-containing tank 10. This roll I prefer to make of rubber with its circumference formed with cells or grooves adapted to take up paste as it revolves in the tank and give it out to the under side of the web as it is drawn from the supplying-roll over the top of the paste-giving roll. A smaller rubber roll 11 is also mounted upon the paste-tank outside thereof in position to receive the web on its under side and engage it with the lower portion of the circumference of the web-carrying wheel.

The paste-tank is preferably supported upon parallel rods or ways 12, upon which it is free to slide horizontally toward and from the sealing-web-carrying wheel, and a spring 13 connects said tank, so as to constantly pull and maintain the small rubber roll 11 in con-

tact with the said wheel to direct and apply thereto the pasted side of the web as it is drawn from the paste-roll. For this purpose the web passes from the supplying-roll over the grooved surface of the paste-roll and is delivered under the pressure of the smaller roll with its pasted side in contact with the circumference of the wheel, whereby the pasted web is caused to be laid across the radial openings in the surface of said wheel and to adhere to such surface between said openings. These surfaces are corrugated circumferentially to lessen the sticking of the sealing-strip to the wheel. The mounting of the web-roll and of the paste-tank so that they shall be separately movable and separately maintained under pressure gives convenience for access to the parts for adjustment and cleaning.

In Fig. 6 the pasted side of the web is seen as adhering to the circumference of the wheel and as crossing two of its intersecting openings, having been drawn thereover and with it by the intermittent rotation of the wheel. Mediate between the intersecting openings are surface-slits 15, which extend across the surface of the wheel parallel with said openings to provide for the action of a knife for the separation of the web into sealing-strips upon the wheel. This separation I make by a knife-blade 16, mounted parallel with the axis of the web-carrying wheel and preferably at a point in relation to its circumference between the two openings above the roll-applying web, as seen in Figs. 6 and 7. The end of the knife-blade is fixed upon a rocking stud 17, mounted in a fixed bearing 18 at the outer side of the wheel. The other end of said stud is fixed to the end of an arm 19, which extends back and terminates in an incline 20, Figs. 1 and 4, adapted to engage a pin 21 on the cam F⁵, which actuates the paper-laying fingers, whereby the free end of said arm 19 is vibrated outward, thereby rocking the stud 17 and causing the knife-blade to have a downward stroke across the web on the wheel, severing it and entering the slit in the wheel-surface. A spring 22 connects the knife-actuating arm 19, so as to raise the knife free of the web after the cut is made.

I utilize the intermittent movement of the sealing-web-carrying wheel to draw the web upon it, and for the purpose of holding the web firmly upon the wheel-surface at the time of severing the web at the slit 15 I provide the knife-blade with a spring-pressed clamp which, as seen in Figs. 6 and 7, consists of plates 23 23 on each side of the blade, connected together by pins 24, passing through slots 25 in the blade. A spring or springs 26, connected to the blade near its fixed end, constantly tend to press the clamp down, but when the knife-blade stands up out of action its slots engage the pins of the clamp and lift and hold it free of the web upon the wheel and allow the latter to turn free of the clamp. In this position the acting surface of the

clamp will be below the cutting edge of the knife, so that when the latter is forced down to sever the web the clamp will move in advance of the knife-edge and thus press upon
5 and hold the web as it is being cut on each side of the wheel-slit and while the wheel is at rest, as seen in Figs. 6 and 7.

The provision for operating the sealing-web-carrying wheel consists of a ratchet-
10 wheel 27, fixed upon the outer end of the bearing of the said wheel. The teeth 28 of this ratchet-wheel correspond in number with the radial openings of the sealing-web-carrying wheel, and the provision for operating this
15 ratchet consists of a spring-pressed pawl 29, carried by an arm 30, loose on the outer end of the ratchet-bearing and connected by a link 31 to a crank 32 on the outer end of the main driving-shaft, so that one revolution of
20 the said crank will vibrate said arm and cause the sealing-web-carrying wheel to rotate through an arc equal to the space between its circumferential openings. In this action the crank lifts and depresses the pawl-carrying
25 arm, the downward movement of which rotates said wheel. A spring-pressed catch 33 engages a disk 34 behind the ratchet-wheel, having circumferential recesses or notches 35, corresponding in number to the ratchet-teeth,
30 such engagement being at the moment the wheel ceases to turn, and holds it from turning until the sealing-strip is taken off the wheel and applied to the paper and the latter drawn out from the wheel. Just before the
35 pawl again commences to turn the ratchet the catch 33 is disengaged from the disk by a push-arm 36, fixed on the pawl-carrying arm 30, as seen in Fig. 2. As the catch 33 is being disengaged from the notched disk 34 of
40 the web-carrying wheel the pawl 29 is about to engage its ratchet-wheel, and to prevent the possible turning of the wheel at the moment it is being unlocked I provide a spring-pressed detent 40 on the inner wall of the
45 frame, Fig. 4, to engage a circumferential recess 41, Fig. 8, in the head of said wheel coincident with the radial openings therein, and thereby hold the wheel in true position every
50 time to receive the proper action of the pawl to turn the wheel to bring its radial openings coincident with the plane of the front bed-bars. In such operation as the crank 32 is approaching the highest point of its throw the push-arm 36 first engages and releases the
55 catch 33 by pushing it out of the disk-teeth 35 just before the pawl engages the ratchet, and the said crank upon reaching the lowest point of its throw has turned the ratchet-wheel and sealing-web-carrying wheel the precise degree to bring the wheel-openings in the
60 plane of the bed-bars and a sealing-strip in position to be pushed off the wheel, but during this movement of the wheel there is no paper within the openings of the wheel. When the
65 crank 32 is at its lowest position, the radial openings are in alinement with the bed.

The action of the several cams, it will be understood, is by roll contact.

As the paper is carried through the openings in the wheel it engages the sealing-strip, 70 folding it, and forces it through the spring-grasp 42, so that its pasted side is caused to adhere to the opposite sides of the folded paper at its free edges, as in Fig. 6. This spring-grasp is formed of fingers, which terminate 75 near the bite of a pair of rolls 43 and 44, and its action is to press upon the folded strip and insure its being pasted evenly over the edges of the paper as if pressed together by the fingers of a pair of hands while being drawn between them. The under one 43 of these rolls 80 is mounted in the frame and is parallel with the shelf, and I prefer to provide it with two or more circles of leaf-springs 45, Fig. 5, tangentially seated in circumferential grooves 85 and adapted to take hold of the paper to pull it out. The upper roll 44 I prefer to mount upon arms 46, pivoted so that the roll can be turned up and supported by an arm 47, Fig. 1, for access to the spring-grasp for cleaning, 90 as shown by dotted lines in Fig. 1. These rolls take the paper from the lifting action of the shelf, and in order that the paper shall be delivered from them with its folded edge downward I provide a sort of cage or pocket 95 back of the rolls and extending upward therefrom about on the plane of the front bed-bars and into which cage the paper is driven by the rolls and the direction of its movement reversed in leaving said cage, so that the folded 100 paper is delivered with its sealed edges up. This cage consists of bars 48, fixed to the side frames, connected at their upper ends by a cross-rod 49, to which are fixed a series of fingers 50, the lower ends of which terminate 105 with a backward bend just back of the lower roll. The upper side of the cage is formed by spring-fingers 51, and within the cage, across its top, is secured a leaf-spring 52, against which the paper strikes as it is driven 110 into the cage and by which it is caused to have a slight rebound. At the same time of the rebound the lower edge of the paper is thrown back against the lower bent ends of the fingers 50 by the action of the roll-springs 45, 115 the ends of which are bent outward the better to take hold of and throw back the lower edge of the paper as it emerges from the rolls, Fig. 4. The downward thrust upon the top of the paper by the cage-spring 52 and the backward 120 throw of the roll-springs 45 upon the lower edge of the paper at the back of the lower roll and between it and a small roll 53 causes the paper in position to be drawn out of the cage over the bent ends of its fingers. The roll- 125 springs are pressed into the grooves as the paper is drawn between the rolls, but the instant the paper leaves the rolls the bent ends of the springs are projected beyond the circumference of the rolls, so as to strike and 130 throw back the lower edge of the paper and give it a driving direction out of the cage.

The rolls are operated by the gear X on the driving-shaft Z, which engages a gear 54 on the lower roll. A gear 55 on the upper roll engages an idle-gear 56, which engages a second idle-gear 57, which is in engagement with the gear on the lower roll, whereby the rolls are turned toward each other.

A pinion 58 on the rear small roll 53 engages an idle-pinion 59, which engages the idle-gear 57, driven by the lower roll, whereby the small roll is caused to turn in the same direction as the lower roll. The gear-wheel X of the driving-shaft may be driven by any suitable connection from the press, so that said gear will make one revolution for each paper that is delivered upon the shelf of the bed-bars. The sealing-web having been applied by its pasted side to the circumference of the wheel and the strip adhering by the paste while it is soft, the wheel is turned to bring one of the severed web-strips on its surface in alinement with the grasp. The machine is ready to receive the paper to be sealed.

As the folded paper or other article to be sealed is delivered with its folded edge upon the shelf it falls over upon the bed-bars, and the laying-fingers, then moving down with a slight pressure upon it, hold it in a smooth pressed condition on the bed-bars. In this position of the paper the web-carrying wheel is at rest with its radial openings in alinement with the open edge of the paper and into which it is quickly slid by the throw of the fingers acting on the opposite folded edge of the paper. The shelf is then raised, carrying with it the paper over the bed-bars and out through the wheel-openings, the open edge of the paper emerging from the latter striking the sealing-strip, which by its pasted side adheres to the circumference of the wheel across its opening. As the paper pushes the seal off the wheel-surface its folded ends are pasted over the edge of the paper and pushed into and through the grasp, whereby they are pressed together upon the paper. The lifting action of the shelf does not cease until the sealing-strip is forced with the paper out of the grasp and is engaged by the bite of the rolls, which then draw the sealed paper out of the wheel. As soon as the paper is delivered to the bite of the rolls the throwing-fingers, the laying-fingers, and the shelf return to their normal positions at about the same time, and immediately following these movements the seal-carrying wheel turns to bring another line of its openings in alinement with the bed-bars and with the grasp and with another sealing-strip in position to be pushed off the wheel-surface. The operation is then repeated in which the sealing-strip is applied to the circumference of the wheel and severed thereon during the intermittent rotation of the wheel, each turn of the wheel presenting a sealing-strip at the point from which it is taken by the paper.

Each paper is driven from the rolls into the cage or pocket, from which it is delivered

in reverse direction into the packing-box or other receptacle.

To allow the upper roll to be turned up, as stated, the lower ends of the upper fingers of the cage rest against the under side of a cross-bar connecting the roll-carrying arms, so as not to interfere with the raising of the roll. (See Fig. 4.)

The parts which act upon and move the paper are timed to operate in unison with the intermittent rotation of the sealing-web-carrying wheel to transfer from the circumference of the latter a pasted strip and apply it to the paper. If desired, the web may be printed throughout its entire length with the words "Not returnable if broken," so that it would be certain for each sealing-strip to contain this notice without regard to its point of severance from the web, and it will be understood that when the web is printed with the notice the printing will appear on the seal.

I claim—

1. In a machine for sealing newspapers, an intermittently-rotating wheel having radial openings intersecting its circumference and open at one side of said wheel, in combination with mechanism for applying a pasted web to said circumference across its openings, a knife arranged and operating to sever said web between said openings, mechanism for applying the folded newspaper sidewise to said wheel within its radial openings, mechanism for moving said paper through said wheel-openings in a direction to take the severed strip from the circumference, and a grasping device supplementing said wheel for applying said strip to the open edges of the paper.

2. The combination of an intermittently-rotating wheel having radial openings intersecting its circumference and open at one side of said wheel, mechanism for applying a pasted web to said circumference across its openings, a knife operating at the circumference of said wheel, with a bed at the open side of said wheel in a plane crossing the axis, a shelf adapted to traverse said bed in a direction crossing said axis, a finger device at the outer end of the bed, and mechanism for operating said shelf and said finger device in the way and for the purpose stated.

3. In a machine for sealing newspapers, a receptacle for the folded paper, consisting of an upwardly-inclined bed, side guards, and fingers operating at the front of said bed, in combination with fingers operating at one side of said bed, a shelf fitted to traverse said bed, a pair of rolls mounted to operate at the top of said bed, a wheel having radial openings intersecting its circumference and open at one side of said wheel, mounted at the other side of the bed with its axis in the plane thereof, mechanism for applying a pasted web to the circumference of said wheel across its openings, a knife arranged to operate upon said circumference, a spring-grasp

supplementing said wheel, and mechanism for intermittently rotating said web-carrying wheel, and for operating its coacting knife, and mechanism for operating the said front and end fingers of the bed in the way and for the purpose stated.

4. In a machine for sealing newspapers, a wheel having radial openings intersecting its circumference and open at one side of said wheel, and mechanism for applying a pasted web to said circumference across said openings, in combination with an inclined bed at the open side of the wheel in a plane crossing its axis, and mechanism for moving a folded paper upon said bed both sidewise into the wheel-openings and upward through said openings in the operation of transferring a strip of said pasted web from the wheel to the open edges of the folded paper.

5. The combination, in a newspaper-sealing machine, of an intermittently-rotating wheel having radial openings intersecting its circumference and open at one side of said wheel, mechanism for applying a pasted web to said circumference across said openings, a knife operating at the circumference of said wheel, with an upwardly-inclined bed at the open side of the wheel on a plane crossing its axis, mechanism for moving a folded paper on said bed sidewise into the wheel-openings and upward through said openings, a grasping device supplementing said wheel, a pair of rolls above said grasping device, and a cage or pocket extending in an upward and rearward incline into which the folded paper is thrown from said rolls and reversed in the direction of its movement for delivery from said cage in the way described.

6. In a machine for sealing newspapers, an intermittently-rotating wheel having radial openings intersecting its circumference and open at one side of said wheel, and mechanism for applying a pasted web to said circumference across said openings, in combination with a web-severing knife acting on said circumference, and a spring-pressed clamp operated by the movement of said knife whereby to bind the web upon the circumference as the wheel is rotated, and to release said clamp to allow the wheel to turn, and mechanism for giving the paper a sidewise and an upward movement in the described relation to said wheel in the way and for the purpose set forth.

7. The combination, in a machine for sealing newspapers, of an inclined bed, a pair of rolls at the top of said bed, a shelf fitted to traverse said bed toward and from said rolls and vibratable fingers standing at one side of said bed, of a wheel having radial openings intersecting its circumference and open at one side of said wheel, mechanism for supplying a pasted web upon the circumference of said wheel, a knife arranged to operate upon said circumference, and means for operating said wheel, consisting of a ratchet-wheel 27 fixed on the axis of said web-carry-

ing wheel, and having teeth 28, corresponding with the wheel-openings, an arm 30 loose on said axis, a link 31 connecting said arm 30 with a crank 32 of the main driving-shaft, and a spring-sustained pawl 29 on said arm 30 for engaging said ratchet-wheel, a disk 34 fixed on said axis, having circumferential notches 35, corresponding with the ratchet-teeth and a catch 33 for engaging said disk, a push-arm 36 fixed on the pawl-carrying arm, for engaging said catch, a detent 40 for engaging recesses 41 in the web-carrying wheel, substantially as described.

8. In a machine for sealing newspapers, the combination of an intermittently-rotating wheel having radial openings intersecting its circumference and open at one side of said wheel, an inclined bed crossing the axis of said wheel at its open side, and mechanism for moving a folded paper upon said bed sidewise into said wheel-openings and upward through said openings, with mechanism for applying a pasted web to said circumference across said openings, consisting of a paste-containing tank having guide-rolls for the web, one of which is maintained in contact with said circumference to apply the pasted web thereto, means acting on the tank for maintaining such contact, a roll supplying the web maintained in contact with the other tank-roll, means acting on the web-roll support for maintaining such contact, a knife operating at the circumference of said wheel, and mechanism for intermittently rotating said wheel for operation substantially as described.

9. The combination, in a machine for sealing newspapers, of an intermittently-rotating wheel having radial openings intersecting its circumference and open at one side of said wheel, mechanism for applying a pasted web to said circumference across said openings, a knife operating at the circumference of said wheel, with an inclined bed at the open side of said wheel in a plane crossing its axis, mechanism for moving the folded paper sidewise upon said bed into the wheel-openings, consisting of fingers H, at one side of said bed, mounted upon a rock-shaft H' and maintained in their normal positions by a cam H² on the driving-shaft acting on a crank-arm H³ on said rock-rod, a spring H⁴ connecting said crank-arm for throwing said fingers inward, and a shelf G adapted to traverse said bed in a direction crossing the axis of said wheel, and operated by a treadle-frame G⁴ having arms G⁶ connected by links G⁷ and a cross-rod G³ connecting by slotted guides G' with said shelf, a cam G⁹ on the driving-shaft acting on an arm G⁸ of said treadle-frame to move said shelf upward and a spring G¹⁰ connecting said treadle-frame to move said shelf downward, substantially as described.

10. In a machine for sealing newspapers, the combination of an intermittently-rotating wheel having radial openings intersecting its circumference and open at the side of said

wheel, mechanism for applying a pasted web to said circumference across said openings, a knife operating at the circumference of said wheel, with an inclined bed at the open side of said wheel in a plane crossing its axis, mechanism for moving the folded paper upon said bed both sidewise into said openings and upward through said openings, fingers F at the front of said bed, for laying the folded paper thereon, mounted upon a rock-shaft F' and operated by a crank-arm F², on said shaft, a medially-pivoted lever F³, connecting said crank-arm F² and caused to engage at its other end a cam F⁵ on the driving-shaft, whereby said fingers are depressed upon said bed and elevated at each revolution of said cam, and mechanism for intermittently rotating said web-carrying wheel, substantially as described.

11. In combination, in a machine for sealing newspapers, an inclined bed, a pair of rolls at the top of said bed, a shelf fitted to traverse said bed toward and from said rolls and vibratable fingers standing at one side of said bed, a wheel having radial openings intersecting its circumference and open at one side of said wheel, mechanism for applying a pasted web upon the circumference of said wheel, a knife 16, arranged to operate upon said circumference, and means for operating said knife consisting of a stud 17, to which one end of said knife is fixed, an arm 19, fixed on the other end of said stud and terminating in an incline 20, at its free end and a pin 21, on the cam F⁵ adapted to engage said incline and thereby rock the stud and depress the knife to sever the web, a spring 22 connecting said arm 19 for raising said knife, a spring-pressed clamp 23 carried by said knife and having a limited movement thereon, whereby said clamp is caused to engage the web in advance of the action of the knife thereon and thereby hold the web firmly at each side of the knife, as it is being severed, and mechanism for intermittently rotating said wheel, substantially as described.

12. In combination, in a machine for sealing newspapers, an intermittently-rotating wheel having radial openings intersecting its circumference and open at one side of said wheel, an inclined bed at the open side of said wheel in a plane crossing its axis, mechanism for both moving a folded paper upon said bed sidewise into the wheel-openings and upward through said openings, mechanism for applying a pasted web to said circumference, consisting of a web-carrying roll, a paste-containing tank 10, a roll 9, dipping therein and having in its circumference cells or grooves to provide paste to the web passing over the upper portion of said circumference, a guide pressure-roll 11, under which said web passes and by which it is applied to the wheel, and springs for maintaining the web-roll in contact with the paste-supplying roll 9, and the guide pressure-roll in contact with said wheel circumference, and mechanism for intermit-

tently rotating said web-carrying wheel, substantially as described.

13. In a machine for sealing newspapers, the combination, with an inclined bed, a wheel arranged at one side thereof with its axis in the plane of said bed, and having radial openings intersecting the circumference of said wheel and open at the side of said bed, mechanism for moving a folded paper upon said bed both sidewise into said openings and upward through said openings, mechanism for intermittently rotating said wheel to present its radial openings in alignment with said bed, a spring-grasp supplementing said wheel, a pair of rolls above said grasp, mechanism for applying a pasted web upon said wheel, and a knife for severing the web thereon, the said spring-grasp being located to form a continuation of the radial openings when the wheel is at rest and terminating at the bite of said rolls.

14. The combination with a pair of delivering-rolls of a paper-sealing machine, the rear one of which is provided with spring-arms arranged in circular rows and adapted to take hold of the article passing through said rolls, a roll at the rear of the spring-containing roll, and a cage or pocket back of said rolls having its open end in a fixed relation thereto and terminating at its lower side in a rearward and downward incline in relation to the rear pair of said rolls, substantially as and for the purpose set forth.

15. The combination with the delivery-rolls of a newspaper-sealing machine, of an upwardly-inclined cage or pocket in the rear of said rolls, consisting of an upper and lower series of fingers, the lower series terminating in a rearward bend at the rear of and forming, with the lower delivery-roll, the open bottom of said cage, a roll below said fingers coacting with said lower delivery-roll and a leaf-spring at the top of said cage, substantially as described.

16. The combination, in a newspaper-sealing machine, of a pair of delivering-rolls, the lower roll having leaf-springs seated in circular series in annular grooves, having their free ends bent and projecting beyond the roll-surface, with an upwardly-inclined cage or pocket at the rear of said rolls, formed of an upper and a lower series of fingers, the lower series terminating in rearward bends forming the open bottom of said cage, a leaf-spring at the top of the cage, and a roll coacting with the lower delivery-roll, whereby the folded lower edge of the paper is thrown back as it emerges from the delivery-rolls.

17. In a newspaper-sealing machine, the combination with the correlated three rolls and an upwardly-inclined bed at the lower side of a pair of said rolls, of a cage or pocket at the upper side of said rolls arranged to span and inclose the two passages formed by and between them, the middle one of said rolls provided with means adapted to seize the sealed article and transfer its lower part

within said cage from one to the other of said passages in the way and for the purpose stated.

18. In combination in a newspaper-sealing
5 machine, a series of three rolls, a cage or pocket flaring downward toward said rolls and inclosing the passages formed thereby,

a bed at the lower side of a pair of said rolls, the middle roll provided with spring-fingers for operation in the way stated.

HERMAN T. SUNDSTROM.

In presence of—

JNO. FOURBY,

JOHN H. ENGLISH.